

## Author Index

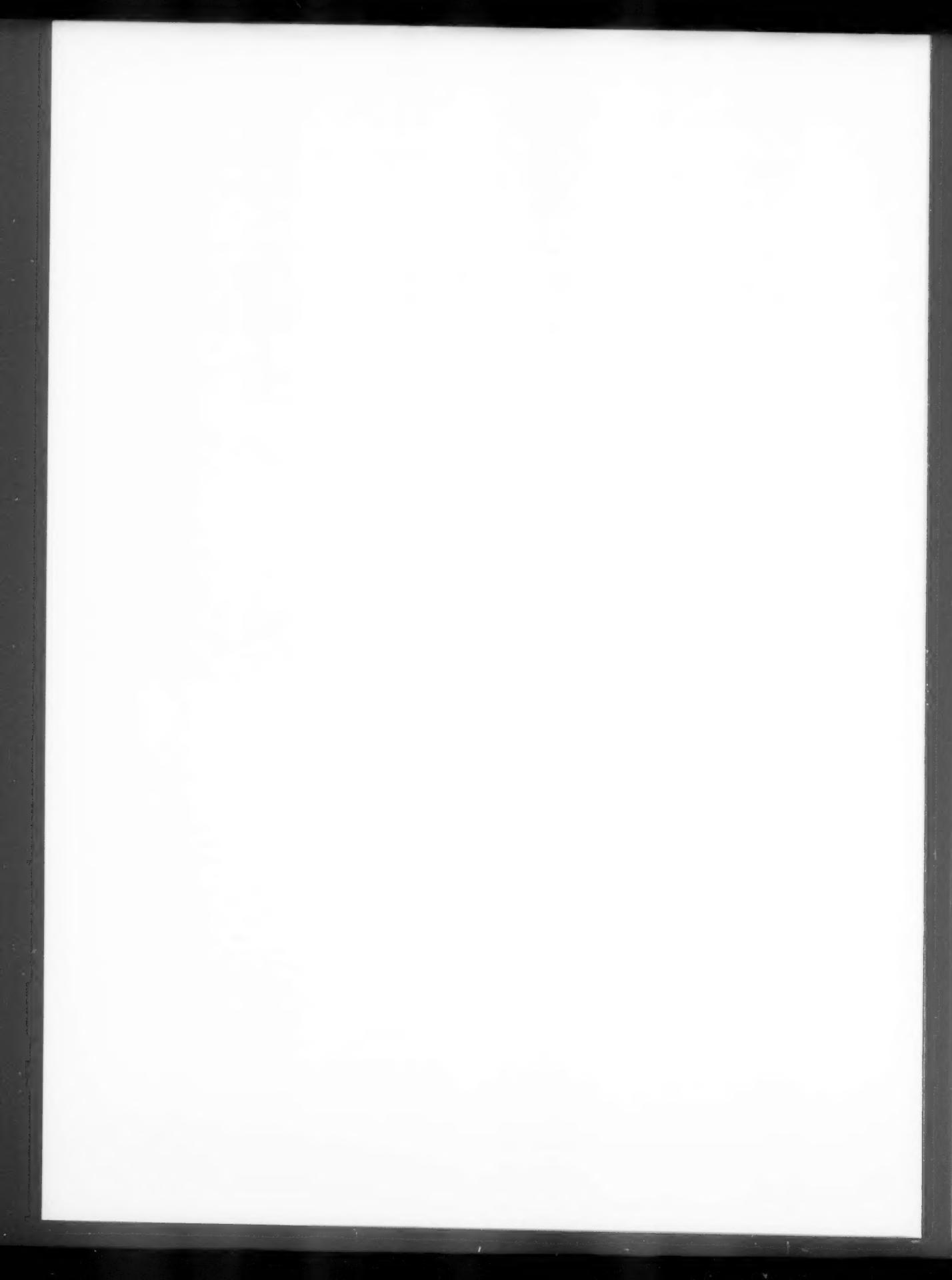
- Ahmad, T A, El-Dakour, S M & El-Zahar, C R. Growth and survival of the grouper *Epinephelus coioides* (Hamilton) at different loading rates in tanks. 603
- Ahmed, F A see Khan, M M R
- Ali, F & Nakamura, K. Metabolic characteristics of the Japanese clam *Ruditapes philippinarum* (Adams & Reeve) during aerial exposure. 157
- Alongi, D M, Johnston, D J & Xuan, T T. Carbon and nitrogen budgets in shrimp ponds of extensive mixed shrimp-mangrove forestry farms in the Mekong delta, Vietnam. 387
- Anderson, M R see Thulst, M F
- Andrade, J P see Domingues, P M
- Appleyard, S A & Mather, P B. Investigation into the mode of inheritance of allozyme and random amplified polymorphic DNA markers in tilapia *Oreochromis mossambicus* (Peters). 435
- de Araujo, A B, Snell, T W & Hagiwara, A. Effect of unionized ammonia, viscosity and protozoan contamination on the enzyme activity of the rotifer *Brachionus plicatilis*. 359
- Arredondo-Figueroa, J L see Rodriguez-Serna, M
- Audet, C see Ben Khemis, I
- Baars, H C A see Tanck, M W T
- Babbitt, J K see Sugiura, S H
- Babiak, I, Brzuska, E & Perkowski, J. Fractional factorial design of screening experiments on cryopreservation of fish sperm. 273
- de Barniol, L see Jiménez, R
- Barniol, R see Jiménez, R
- Barrias, C & Oliva-Teles, A. The use of locally produced fish meal and other dietary manipulations in practical diets for rainbow trout *Oncorhynchus mykiss* (Walbaum). 213
- Beddow, T A see Cooke, S J
- Ben Khemis, I, de la Noue, J & Audet, C. Feeding larvae of winter flounder *Pseudopleuronectes americanus* (Walbaum) with live prey or microencapsulated diet: linear growth and protein, RNA and DNA content. 377
- Benzie, J A H. Population genetic structure in penaeid prawns. 95
- Bhatnagar, A. see Garg, S K
- Billard, R see Suquet, M
- Billard, R, Cosson, J & Linhart, O. Changes in the flagellum morphology of intact and frozen/thawed Siberian sturgeon *Acipenser baerii* (Brandt) sperm during motility. 283
- Bjorn, P A see Finstad, B
- Blanc, J M, Vallée, F & Dorson, M. Survival, growth and dressing traits of triploid hybrids between rainbow trout and three char species. 349
- Blancheton, J-P see Pagand, P
- Boer, H see Garcia-Ortega, A
- Boey, P-L see Ng, W-K
- Borlongan, I G see Emata, A C
- Boxshall, G see Costello, M J
- Boyce, D L see Purchase, C F
- Branson, E J, Ronberg, S S & Ritchie, G. Efficacy of teflubenzuron (Calicide<sup>®</sup>) for the treatment of sea lice, *Lepeophtheirus salmonis* (Kroyer, 1838), infestations of farmed Atlantic salmon (*Salmo salar* L.). 861
- Brown, J A see Purchase, C F
- Brown, M R & McCausland, M A. Increasing the growth of juvenile Pacific oysters *Crassostrea gigas* by supplementary feeding with microalgal and dried diets. 671
- Brzuska, E see Babiak, I
- Brzuska, E. Artificial spawning of carp *Cyprinus carpio* L.: differences between the effects on reproduction in females of Polish and Hungarian provenance treated with carp pituitary and (D-Ala<sup>6</sup>) GnRH ProNHET (Kobarelin). 457
- Carmona-Osalde, C see Rodriguez-Serna, M
- Carrick, T R see Pottinger, T G
- Casellas, C see Pagand, P
- Chaitanawisuti, N & Kritsanapuntu, A. Growth and production of hatchery-reared juvenile spotted babylon *Babylonia areolata* Link 1807 cultured to marketable size in intensive flowthrough and semi-closed recirculating water systems. 415
- Chandroo, K P see Cooke, S J
- Charles, B S see El-Saidy, D M S D
- Chavez-Sanchez, M C see Sangha, R S
- Cho, G K & Heath, D D. Comparison of tricaine methanesulphonate (MS222) and clove oil anaesthesia effects on the physiology of juvenile chinook salmon *Oncorhynchus tshawytscha* (Walbaum). 537
- Cho, S H see Lee, S-M
- Ciereszko, A see Glogowski, J
- Coimbra, J. see Fontainhas-Fernandes, A
- Collins, R A see Gunasekera, R M
- Cooke, S J, Chandroo, K P, Beddow, T A, Moccia, R D & McKinley, R S. Swimming activity and energetic expenditure of captive rainbow trout *Oncorhynchus mykiss* (Walbaum) estimated by electromyogram telemetry. 495
- Cosson, J see Billard, R
- Cosson, J see Suquet, M
- Costa, A P R see Muratori, M C S
- Costelloe, J see Nolan, D T
- Cross, T F. Genetic implications of translocation and stocking of fish species, with particular reference to Western Australia. 83
- Cruz, E M see Ridha, M T
- D'Souza, F M L, Lecossois, D, Heasman, M P, Diemar, J A, Jackson, C J & Pendrey, R C. Evaluation of centrifuged microalgae concentrates as diets for *Penaeus monodon* Fabricius larvae. 661

- Dabrowski, K see El-Saidy, D M S D
- Dabrowski, K see Glogowski, J
- Damaso, J P see Emata, A C
- Dan, N C & Little, D C. Overwintering performance of Nile tilapia *Oreochromis niloticus* (L.) broodfish and seed at ambient temperatures in northern Vietnam, 485
- Davies, I M & Rodger, G K. A review of the use of ivermectin as a treatment for sea lice [*Lepophtheirus salmonis* (Kroyer) and *Caligus elongatus* Nordmann] infestation in farmed Atlantic salmon (*Salmo salar* L.), 869
- Davis, G P & Hetzel, D J S. Integrating molecular genetic technology with traditional approaches for genetic improvement in aquaculture species, 3
- De Silva, S S see Gunasekera, R M
- De Silva, S S, Gunasekera, R M & Gooley, G. Digestibility and amino acid availability of three protein-rich ingredient-incorporated diets by Murray cod *Maccullochella peelii peelii* (Mitchell) and the Australian shortfin eel *Anguilla australis* Richardson, 195
- Deng, D F see Hemre, G I
- Diemar, J A see D'Souza, F M L
- Diemar, J see Heasman, M
- Dobosz, S see Glogowski, J
- Domínguez, P M, Fores, R, Turk, P E, Lee, P G & Andrade, J P. Mysid culture: lowering costs with alternative diets, 719
- Dong, F M see Sugiura, S H
- Doroudi, M S & Southgate, P C. The influence of algal ration and larval density on growth and survival of blacklip pearl oyster *Pinctada margaritifera* (L.) larvae, 621
- Dorson, M see Blanc, J M
- Doupé, R G & Lymbery, A J. Managing translocations of aquatic species, 151
- Doupé, R G see Lymbery, A J J
- Dreanno, C see Suquet, M
- Einarsdóttir, I E, Nilssen, K J & Iversen, M. Effects of rearing strett on Atlantic salmon (*Salmo salar* L.) antibody response to a non-pathogenic antigen, 923
- El-Dakour, S M see Ahmad, T A
- Elliott, N G. Genetic improvement programmes in abalone: what is the future?, 51
- El-Saidy, D M S D, Dabrowski, K & Charles, B S. Nutritional effects of protein source in starter diets for channel catfish (*Ictalurus punctatus* Rafinesque) in sub-optimal water temperature, 885
- El-Zahar, C R see Ahmad, T A
- Emata, A C see Garcia, I M B
- Emata, A C, Borlongan, I G & Damaso, J P. Dietary vitamin C and E supplementation and reproduction of milkfish *Chanos chanos* Forsskal, 557
- English, L J see Ward, R D
- Fauvel, C see Suquet, M
- Fenerich-Verani, N see Sato, Y
- Finstad, B see Staurnes, M
- Finstad, B, Bjorn, P A, Grimnes, A & Hvidsten, N A. Laboratory and field investigations of salmon lice [*Lepeophtheirus salmonis* (Kroyer)] infestation on Atlantic salmon (*Salmo salar* L.) post-smolts, 795
- Fontainhas-Fernandes, A, Monteiro, M, Gomes, E, Reis-Henriques, M A & Coimbra, J. Effect of dietary sodium chloride acclimation on growth and on plasma thyroid hormones in tilapia *Oreochromis niloticus* (L.) in relation to sex, 507
- Forbin, I see Nguenga, D
- Fores, R see Dominguez, P M
- Foulkes, L see Heasman, M
- Gallardo, W G, Hagiwara, A & Snell, T W. GABA enhances reproduction of the rotifer *Brachionus plicatilis* Muller: application to mass culture, 713
- Garcia, I M B, Hilomen-Garcia, G V & Emata, A C. Survival of captive milkfish *Chanos chanos* Forsskal broodstock subjected to handling and transport, 575
- Garcia-Ortega, A, Koussoulaki, A, Boer, H & Verreth, J. In vitro protein digestibility of *Artemia* decapsulated cysts and nauplii, and of microbound diets for larval fish, 475
- Garg, S K & Bhatnagar, A. Effect of fertilization frequency on pond productivity and fish biomass in still water ponds stocked with *Cirrhinus mrigala* (Ham.). 409
- Giri, S S, Sahoo, S K, Sahu, A K & Mukhopadhyay, P K. Growth, feed utilization and carcass composition of *Clarias batrachus* (Linn.) fingerlings fed on dried fish and chicken viscera incorporated diets, 767
- Gjedrem, T. Genetic improvement of cold-water fish species, 25
- Glennon, K see Nolan, D V
- Glogowski, J, Kwasnik, M, Piros, B, Dabrowski, K, Goryczko, K, Dobosz, S, Kuzminski, H & Ciereszko, A. Characterization of rainbow trout milt collected with a catheter: semen parameters and cryopreservation success, 289
- Godinho, H P see Sato, Y
- Gomes, E see Fontainhas-Fernandes, A
- Gooley, G see De Silva, S S
- Gooley, G see Gunasekera, R M
- Goryczko, K see Glogowski, J
- Grant, A see Treasurer, J M
- Grimnes, A see Finstad, B
- Gunasekera, R M see De Silva, S S
- Gunasekera, R M, De Silva, S S, Collins, R A, Gooley, G & Ingram, B A. Effect of dietary protein level on growth and food utilization in juvenile Murray cod *Maccullochella peelii peelii* (Mitchell), 181
- Guo, J Y see Mu, Y Y
- Gwo, J-C. Cryopreservation of aquatic invertebrate semen: a review, 259
- Hagiwara, A see de Araujo, A B
- Hagiwara, A see Gallardo, W G
- Hamre, K see Lygren, B
- Hardy, R W see Kissil, G Wm
- Hardy, R W see Sculor, M
- Hardy, R W see Sugiura, S H
- Hargreaves, J A see Owusu-Frimpong, M
- Haugum, G see Minchin, D
- Heasman, M P see D'Souza, F M L
- Heasman, M P see O'Connor, W A
- Heasman, M, Diemar, J, O'Connor, W, Sushames, T & Foulkes, L. Development of extended shelf-life

- microalgae concentrate diets harvested by centrifugation for bivalve molluscs – a summary. 637  
 Heath, D D see Cho, G K  
 Hecht, T see Oellermann, L K  
 van der Heijden, Y see Nolan, D T Hemre, G I, Shiu, S Y  
 Deng, D F, Storebakken, T & Hung, S S O. Utilization of hydrolysed potato starch by juvenile Atlantic salmon *Salmo salar* L., when using a restricted feeding regime. 207  
 Hetzel, D J S see Davis, G P  
 Heuch, P A, Nordhagen, J R & Schram, T A. Egg production in the salmon louse [*Lepeophtheirus salmonis* (Krøyer)] in relation to origin and water temperature. 805  
 Hickman, R W. Use of premature New Zealand dredge oyster *Tiostrea lutaria* Hutton larvae for spat production. 529  
 Higgs, D A see Kissil, G Wm  
 Hilomen-Garcia, G V see Garcia, L M B  
 Horváth, Á & Urbányi, B. The effect of cryoprotectants on the motility and fertilizing capacity of cryopreserved African catfish *Clarias gariepinus* (Burchell 1822) sperm. 317  
 Hung, S S O see Hemre, G I  
 Hvidsten, N A see Finstad, B  
 Imsland, A K see Jonassen, T M  
 Ingram, B A see Gunasekera, R M  
 Ishikawa, M see Teshima, S  
 Iversen, M see Einarsdóttir, I E  
 Jackson, C J see D'Souza, F M L  
 Jenkins, G see Lymbery, A J  
 Jiménez, R, Barniol, R, de Barniol, L, Machuca, M & Romero, X. Viral-like particles associated with cuticular epithelium necrosis in cultured *Litopenaeus vannamei* (Decapoda: Crustacea) in Ecuador. 519  
 Johnson, M S. Measuring and interpreting genetic structure to minimize the genetic risks of translocations. 133  
 Johnston, D J see Alongi, D M  
 Jonassen, T M, Imsland, A K, Kadokawa, S & Stefansson, S O. Interaction of temperature and photoperiod on growth of Atlantic halibut *Hippoglossus hippoglossus* L.. 219  
 Jones, C M, McPhee, C P & Ruscoe, I M. A review of genetic improvement in growth rate in redclaw crayfish, *Cherax quadricarinatus* (von Martens) (Decapoda: Parastacidae). 61  
 Jones, D A see Sangha, R S  
 Jongbloed, W J see Rawson, D M  
 Kadokawa, S see Jonassen, T M  
 Kalicharan, D see Rawson, D M  
 Karayücel, I see Karayücel, S  
 Karayücel, S & Karayücel, I. Effect of environmental factors, depth and position on the growth and mortality of raft cultured blue mussels (*Mytilus edulis* L.). 893  
 Keenan, C P. Should we allow human-induced migration of the Indo-West Pacific fish, barramundi *Lates calcarifer* (Bloch) within Australia?. 121  
 Kelly, Y see Nolan, D V  
 Khan, M M R, Mollah, M & Ahmed, F A. Mass production of hybrid magur and its culture potential in Bangladesh. 467  
 Khan, S see Ono, K  
 Kim, D-J see Lee, S M  
 Kissil, G Wm, Lupatsch, I, Higgs, D A & Hardy, R W. Dietary substitution of soy and rapeseed protein concentrates for fish meal, and their effects on growth and nutrient utilization in gilthead seabream *Sparus aurata* L.. 595  
 Knibb, W. Genetic improvement of marine fish – which method for industry?. 11  
 Kohlmann, K see Tanck, M W T  
 Komen, J see Tanck, M W T  
 Koshio, S see Teshima, S  
 Koussoulaki, A see Garcia-Ortega, A  
 Kritsanapunti, A see Chaitanawisuti, N  
 Kuzminski, H see Glogowski, J  
 Kwasnik, M see Glogowski, J  
 Lahnsteiner, F. Semen cryopreservation in the Salmonidae and in the Northern pike. 245  
 Lall, S P see Pustowka, C  
 Lam, T J see Mu, Y Y  
 Lawrence, C S & Morrissey, N M. Genetic improvement of marron *Cherax tenuimanus* Smith and yabbies *Cherax* spp. in Western Australia. 69  
 Leccossoi, D see D'Souza, F M L  
 Lee, P G see Domingues, P M  
 Lee, S-M, Cho, S H & Kim, D-J. Effects of feeding frequency and dietary energy level on growth and body composition of juvenile flounder, *Paralichthys olivaceus* (Temminck & Schlegel). 917  
 Leite, R C see Muratori, M C S  
 Lemoalle, J see Pagand, P  
 Leung, P S see Sharma, K R  
 Linhart, O see Billard, R  
 Little, D C see Dan, N C  
 López, C see Scolari, M  
 Lupatsch, I see Kissil, G Wm  
 Luzzana, U see Scolari, M  
 Lygren, B, Hamre, K & Waagbo, R. Effect of induced hyperoxia on the antioxidant status of Atlantic salmon *Salmo salar* L. fed three different levels of dietary vitamin E. 401  
 Lymbery, A J see Doupé, R G  
 Lymbery, A J. Genetic improvement in the Australian aquaculture industry. 145  
 Lymbery, A, Doupé, R G, Jenkins, G & Thorne, T. Genetics in the aquaculture industry. 1  
 Lyndon, A R & Toovey, J P G. Does the Aquasmart™ feeding system reduce sea louse [*Lepeophtheirus salmonis* (Krøyer)] infestation on farmed Atlantic salmon (*Salmo salar* L.) in winter?. 843  
 Machuca, M see Jiménez, R  
 Magallón, F see Ocampo, L  
 Maguire, G B see Ward, R D  
 Martin, S A M see Nolan, D V  
 Mather, P B see Appleyard, S A  
 McCausland, M A see Brown, M R  
 McCormack, G P see Nolan, D V

- McFadden, Y see Tully, O  
 McGoldrick, D J see Ward, R D  
 McKinley, R S see Cooke, S J  
 McNiven, M A see Pustowka, C  
 McNiven, M A see Richardson, G F  
 McPhee, C C see Nell, J A  
 McPhee, C P see Jones, C M  
 Mentasti, T see Scolari, M  
 Miller, T L see Richardson, G F  
 Minchin, D, Skjaeggstad, H, Haugum, G & Strand, Ø. Righting and recessing ability of wild and naive cultivated scallops, 473  
 Moccia, R D see Cooke, S J  
 Mollah, M see Khan, M M R  
 Monteforte, M & Morales-Mulia, S. Growth and survival of the Calafat mother-of-pearl oyster *Pinctada mazatlanica* (Hanley 1856) under different sequences of nursery culture-late culture at Bahia de La Paz, Baja California Sur, Mexico, 901  
 Monteiro, M see Fontainhas-Fernandes, A  
 Morales-Mulia, S see Monteforte, M  
 Moretti, V M see Scolari, M  
 Morrissey, N M see Lawrence, C S  
 Mu, Y Y, Lam, T J, Guo, J Y & Shim, K F. Protein digestibility and amino acid availability of several protein sources for juvenile Chinese hairy crab *Eriocheir sinensis* H. Milne-Edwards (Decapoda, Grapsidae), 757  
 Mukhopadhyay, P K see Giri, S S  
 Muratori, M C S, de Oliveira, A L, Ribeiro, L P, Leite, R C, Costa, A P R & da Silva, M C C. *Edwardsiella tarda* isolated in integrated fish farming, 481  
 Nakamura, K see Ali, F  
 Nell, J A see Ward, R D  
 Nell, J A, Smith, I R & McPhee, C C. The Sydney rock oyster *Saccostrea glomerata* (Gould 1850) breeding programme: progress and goals, 45  
 Nell, J A. Live feeds and microparticulate diets, 619  
 Ng, W-K, Tee, M-C & Boey, P-L. Evaluation of crude palm oil and refined palm olein as dietary lipids in pelleted feeds for a tropical bagrid catfish *Mystus memurus* (Cuvier & Valenciennes), 337  
 Nguenga, D, Forbin, I, Teugels, G G & Ollevier, F. Predation capacity of tadpoles (*Bufo regularis*) using African catfish *Heterobranchus longifilis* larvae: impact of prey characteristics on vulnerability to predation, 931  
 Nguenga, D, Teugels, G G & Ollevier, F. Fertilization, hatching, survival and growth rates in reciprocal crosses of two strains of an African catfish *Heterobranchus longifilis* Valenciennes 1840 under controlled hatchery conditions, 565  
 Nilssen, K J see Einarsdóttir, I E  
 Nolan, D see Poole, W R  
 Nolan, D T, Ruane, N M, van der Heijden, Y, Quabius, E S, Costeloe, J & Wendelaar Bonga, S E. Juvenile *Lepeophtheirus salmonis* (Krøyer) affect the skin and gills of rainbow trout *Oncorhynchus mykiss* (Walbaum) and the host response to a handling procedure, 823  
 Nolan, D V, Martin, S A M, Kelly, Y, Glennon, K, Palmer, R, Smith, T, McCormack, G P & Powell, R. Development of microsatellite PCR typing methodology for the sea louse, *Lepeophtheirus salmonis* (Krøyer), 815  
 Nordhagen, J R see Heuch, P A  
 de la Noue, J see Ben Khemis, I  
 O'Connor, S J see O'Connor, W A  
 O'Connor, W A, Heasman, M P & O'Connor, S J. Algal diets for broodstock maintenance of the doughboy scallop *Minachlamys asperrima* (Lamarck), 627  
 O'Connor, W see Heasman, M  
 Ocampo, L, Villarreal, H, Vargas, M, Portillo, G & Magallón, F. Effect of dissolved oxygen and temperature on growth, survival and body composition of juvenile *Farfantepenaeus californiensis* (Holmes), 167  
 Oellermann, I K & Hecht, T. Comparison of the fillet yield, protein content and amino acid profile of *Clarias gariepinus* and the *Clarias gariepinus* × *Heterobranchus longifilis* hybrid, 553  
 Oliva-Teles, A see Barrias, C  
 Ollevier, F see Nguenga, D  
 de Oliveira, A L see Muratori, M C S  
 Olvera-Novoa, M A see Rodriguez-Serna, M  
 Ono, K, Khan, S & Onoue, Y. Effects of temperature and light intensity on the growth and toxicity of *Heterosigma akashiwo* (Raphidophyceae), 427  
 Onoue, Y see Ono, K  
 Owusu-Frimpong, M & Hargreaves, J A. Incidence of conjoined twins in tilapia after thermal shock induction of polyploidy, 421  
 Pagand, P, Blancheton, J-P, Lemoalle, J & Casellas, C. The use of high rate algal ponds for the treatment of marine effluent from a recirculating fish rearing system, 729  
 Palmer, R see Nolan, D V  
 Pedrozo, F L see Temporetti, P F  
 Pendrey, R C see D'souza, F M L  
 Pepper, V A see Lusty, M F  
 Perkowski, J see Babaiak, I  
 Piros, B see Glogowski, J  
 Pit, J H & Southgate, P C. When should pearl oyster, *Pinctada margaritifera* (L.), spat be transferred from the hatchery to the ocean?, 773  
 Poole, W R, Nolan, D & Tully, O. Modelling the effects of capture and sea lice [*Lepeophtheirus salmonis* (Krøyer)] infestation on the cortisol stress response in trout, 835  
 Portillo, G see Ocampo, L  
 Pottinger, T G & Carrick, T R. Indicators of reproductive performance in rainbow trout *Oncorhynchus mykiss* (Walbaum), selected for high and low responsiveness to stress, 367  
 Powell, R see Nolan, D V  
 Puello Cruz, A C see Sangha, R S  
 Purchase, C F, Boyce, D L & Brown, J A. Growth and survival of juvenile yellowtail flounder *Pleuronectes ferrugineus* (Storer) under different photoperiods, 547  
 Pustowka, C, Mcniven, M A, Richardson, G F & Lall, S P. Source of dietary lipid affects sperm plasma membrane integrity and fertility in rainbow trout *Oncorhynchus mykiss* (Walbaum) after cryopreservation, 297  
 Quabius, E S see Nolan, D T  
 Rønsberg, S S see Branson, E J

- Rawson, D M, Zhang, T, Kalicharan, D & Jongebloed, W J. Field emission scanning electron microscopy and transmission electron microscopy studies of the chorion, plasma membrane and syncytial layers of the gastrula-stage embryo of the zebrafish *Brachydanio rerio*: a consideration of the structural and functional relationships with respect to cryoprotectant penetration. 325
- Reis-Henriques, M A see Fontainhas-Fernandes, A
- Ribeiro, L P see Muratori, M C S
- Richardson, G F see Pustowka, C
- Richardson, G F, Miller, T L & Mcniven, M A. Cryopreservation of Arctic charr, *Salvelinus alpinus* (L.), semen in various extenders and in three sizes of straw. 307
- Ridha, M T & Cruz, E M. Effect of light intensity and photoperiod on Nile tilapia *Oreochromis niloticus* L. seed production. 609
- Ritchie, G see Branson, E J
- Rodger, G K see Davies, I M
- Rodriguez-Serna, M, Carmona-Osalde, C, Olvera-Novoa, M A & Arredondo-Figueras, J L. Fecundity, egg development and growth of juvenile crayfish *Procambarus (Austrocambarus) llamasii* (Villalobos 1955) under laboratory conditions. 173
- Romero, X see Jiménez, R
- Ruane, N M see Nolan, D T
- Ruscoe, I M see Jones, C M
- Sahoo, S K see Giri, S S
- Sahu, A K see Giri, S S
- Sangha, R S, Puello Cruz, A C, Chavez-Sanchez, M C & Jones, D A. Survival and growth of *Litopenaeus vannamei* (Boone) larvae fed a single dose of live algae and artificial diets with supplements. 683
- Sato, Y, Fenerich-Verani, N, Verani, J R, Vieira, L J S & Godinho, H P. Induced reproductive responses of the neotropical anostomid fish *Leporinus elongatus* Val. under captive breeding. 189
- Schram, T A see Heuch, P A
- Scolari, M, Luzzana, U, Stefani, L, Mentasti, T, Moretti, V M, Valfrè, F, López, C & Hardy, R W. Quantification of cholesterol oxidation products in commercial fish meals and their formation during storage. 785
- Sharma, K R & Leung, P S. Technical efficiency of carp production in India: a stochastic frontier production function analysis. 937
- Shiau, S Y see Hemre, G I
- Shim, K F see Mu, Y Y
- da Silva, M C C see Muratori, M C S
- Skjaeggstad, H see Minchin, D
- Smith, I R see Nell, J A
- Smith, T see Nolan, D V
- Snell, T W see de Araujo, A B
- Snell, T W see Gallardo, W G
- Snook, K see Thulst, M F
- Southgate, P C see Doroudi, M S
- Southgate, P C see Pit, J H
- Støttrup, J G. The elusive copepods: their production and suitability in marine aquaculture. 703
- Staurnes, M & Finstad, B. The effects of dietary NaCl supplement on hypo-osmoregulatory ability and sea water performance of Arctic charr (*Salvelinus alpinus* L.) smolts. 737
- Stefani, L see Scolari, M
- Stefansson, S O see Jonasson, T M
- Storebakken, T see Hemre, G I
- Strand, A see Minchin, D
- Sugiura, S H, Babbitt, J K, Dong, F M & Hardy, R W. Utilization of fish and animal by-product meals in low-pollution feeds for rainbow trout *Oncorhynchus mykiss* (Walbaum). 585
- Suquet, M, Dreanno, C, Fauvel, C, Cosson, J & Billard, R. Cryopreservation of sperm in marine fish. 231
- Sushames, T see Heasman, M
- Tanck, M W T, Baars, H C A, Kohlmann, K, Van der Poel, J J & Komen, J. Genetic characterization of wild Dutch common carp (*Cyprinus carpio* L.). 779
- Tee, M-C see Ng, W-K
- Temporetti, P F & Pedrozo, F L. Phosphorus release rates from freshwater sediments affected by fish farming. 447
- Teshima, S, Ishikawa, M & Koshio, S. Nutritional assessment and feed intake of microparticulate diets in crustaceans and fish. 691
- Teugels, G G see Nguenga, D
- Thompson, P A see Ward, R D
- Thorne, T see Lymbery, A J
- Thulst, M F, Snook, K, Pepper, V A & Anderson, M R. The potential for soluble and transport loss of particulate aquaculture wastes. 745
- Toovey, J P G see Lyndon, A R
- Treasurer, J M, Wadsworth, S & Grant, A. Resistance of sea lice, *Lepeophtheirus salmonis* (Kroyer), to hydrogen peroxide on farmed Atlantic salmon, *Salmo salar* L. 855
- Tully, O & McFadden, Y. Variation in sensitivity of sea lice [*Lepeophtheirus salmonis* (Kroyer)] to dichlorvos on Irish salmon farms in 1991–1992. 849
- Tully, O see Poole, W R
- Turk, P E see Domingues, P M
- Urbányi, B. see Horváth, Á
- Valfrè, F see Scolari, M
- Vallée, F see Blanc, J M
- Van der Poel, J J see Tanck, M W T
- Vargas, M see Ocampo, L
- Verani, J R see Sato, Y
- Verreth, J see García-Ortega, A
- Vieira, L J S see Sato, Y
- Villarreal, H see Ocampo, L
- Waagbo, R see Lygren, B
- Wadsworth, S see Treasurer, J M
- Ward, R D, English, L J, McGoldrick, D J, Maguire, G B, Nell, J A & Thompson, P A. Genetic improvement of the Pacific oyster *Crassostrea gigas* (Thunberg) in Australia. 35
- Wendelaar Bonga, S E see Nolan, D T
- Xuan, T T see Alongi, D M
- Zhang, T see Rawson, D M



## Subject Index

- Abalone, Australian, genetic improvement programmes, 51  
*Acipenser baerii* (Brandt) *see* Sturgeon, Siberian  
Air exposure, metabolism of Japanese clam, 157  
Algae  
extended shelf-life concentrate diets, 637  
*H. akashiwo*, growth and toxicity, 427  
high rate algal ponds and marine effluent, 729  
live feed for Pacific white shrimp, 683  
ration, growth and survival of pearl oyster, 621  
scallop broodstock diets, 627  
Amino acids  
availability, for Chinese hairy crab, 757  
availability, in protein-rich diets, 195  
profile of African catfish hybrids, 553  
Ammonia toxicity, rotifer enzyme activity and, 359  
Anaesthesia, effects on physiology of chinook salmon, 537  
*Anguilla australis* Richardson *see* Eel, shortfin  
Anostomid fish, reproduction of *L. elongatus*, 189  
Antibody response, in Atlantic salmon, 923  
Aquaculture waste, fate of, 745  
AquaSmart™ feeding system, 843  
*Artemia* sp.  
*in vitro* digestibility of protein, 475  
in lowering mysid culture costs, 719  
Australia  
genetic implications of translocation and stocking, 83  
genetic improvement in aquaculture industry, 51, 83,  
121, 145  
marron and yabbies, 69  
Pacific oyster, 35  
Sydney rock oyster, 45  
translocation of barramundi, 121  
*Babylonia areolata* Link 1807 *see* Babylon, spotted  
Babylon, spotted, growth and production of, 415  
Bacteria, *E. tarda* in integrated fish farming, 481  
Bangladesh, mass production of hybrid magur, 467  
Barramundi, genetic impacts of translocation, 121  
Biomass, effects of pond fertilization frequency, 409  
Body composition  
catfish, and fish/chicken viscera diet, 767  
*F. californiensis*, effect of oxygen and temperature, 167  
flounder, feeding frequency and dietary energy level,  
917  
*Brachionus plicatilis* *see* Rotifer  
*Brachydanio rerio* *see* Zebrafish  
Breeding programme  
Australian abalone, 51  
Sydney rock oyster, 45  
*Bufo regularis*, predation capacity of tadpoles, 931  
Calcide®, efficacy in salmon lice infestations, 861  
*Caligus elongatus* Nordmann *see* Salmon lice  
Carbohydrates, starch utilization by Atlantic salmon,  
207  
Carbon budgets in shrimp ponds, 387  
Carp  
common  
factors in artificial spawning, 457  
wild Dutch, genetic characterization, 779  
Indian major, effects of fertilization frequency in  
ponds, 409  
technical efficiency of production in India, 937  
Catfish  
African  
cryoprotectants and cryopreserved sperm, 317  
fillet yield, 553  
hybrid, fillet yield, 553  
hybrid, mass production, 467  
hybrid, reproduction and growth, 565  
predation by tadpoles, 931  
channel, nutritional effects of protein source, 885  
Indian, fish/chicken viscera diets, 767  
magur (hybrid), mass production, 467  
tropical bagrid, palm oil in diets, 337  
*Chanos chanos* Forsskål *see* Milkfish  
Charr  
Arctic  
cryopreservation of semen, 307  
sodium chloride and hypo-osmoregulation, 737  
farming rainbow x charr triploid hybrids, 349  
*Cherax quadricarinatus* (von Martens) *see* Crayfish, redclaw  
*Cherax* spp. *see* Yabbies  
*Cherax tenuimanus* Smith *see* Marron  
Cholesterol, oxidation products in fish meals, 785  
*Cirrhinus mrigala* (Harn.) *see* Carp, Indian major  
Clam, Japanese, metabolism under aerial exposure, 157  
*Clarias batrachus* see Catfish, magur  
*Clarias gariepinus* (Burchell) *see* Catfish, African  
Clove oil anaesthesia, effects on chinook salmon, 537  
Cod, Murray  
dietary protein requirements, 181  
digestibility and amino acid availability of diets, 195  
Cold-water fish species  
genetic improvement of, 25  
*see also* specific species  
Copepods, in marine aquaculture, 703  
Cost *see* Economics  
Crab, Chinese hairy, protein sources for, 757  
*Crassostrea gigas* (Thunberg) *see* Oyster, Pacific  
Crayfish  
marron and yabbies, genetic improvement, 69  
redclaw, genetic improvement in growth rate, 61  
reproductive biology of juveniles, 173  
Crustaceans  
microparticulate diets and, 691  
*see also* specific species  
Cryopreservation of gametes, 229  
aqueous invertebrate semen (review), 259  
characterization of rainbow trout milt, 289  
cryoprotectants, and African catfish sperm, 317  
dietary lipid and rainbow trout sperm integrity, 297  
EM studies of gastrula-stage zebrafish embryos, 325  
flagella of frozen/thawed sturgeon sperm, 283  
fractional factorial design of sperm screening studies, 273  
semen of Arctic charr, 307  
semen in Salmonidae and Northern pike, 245  
sperm in marine fish, 231  
Cryoprotectants  
effect on African catfish sperm, 317  
zebrafish embryos and, 325

- Culture methods  
 Califia mother-of-pearl oyster, 901  
 hatchery-reared spotted babylon, 415  
 high rate algal ponds and marine effluent, 729  
 mass production of hybrid catfish, 467  
 shrimp-mangrove farm ponds, 387  
 technical efficiency of carp production, 937  
*Cyprinus carpio* L. see Carp, common
- Dichlorvos, sensitivity of salmon lice, 849  
 Diet  
 algae  
 centrifuged concentrates, 637, 661  
 extended shelf-life concentrates, 637  
 live feed for Pacific white shrimp, 683  
 ration for pearl oyster, 621  
 for scallop broodstock, 627  
 supplementary feeding of Pacific oyster, 671  
 amino acid availability, 195  
 Arctic charr, sodium chloride and hypo-osmoregulation, 737  
 Atlantic salmon  
 starch utilization, 207  
 vitamin E, hyperoxia and redox status, 401  
 carbohydrates, starch utilization by Atlantic salmon, 207  
 catfish  
 effects of protein source, 885  
 fish/chicken viscera, 767  
 palm oil and, 337  
 copepods in marine culture, 703  
 dried, supplementary feeding of Pacific oyster, 671  
 energy level, effects on growth of flounder, 917  
 fish/chicken viscera, for catfish, 767  
 fish meal  
 cholesterol oxidation products, 785  
 in practical diets for rainbow trout, 213  
 flounder  
 effects of energy level, 917  
 larval first feeding, 377  
 GABA in rotifer production, 713  
 lipids  
 palm oil in catfish diets, 337  
 rainbow trout sperm integrity and, 297  
 low-pollution feeds, 585  
 microparticulate, nutritional assessment and feed intake, 691  
 mollusc, microalgae concentrates, 637  
 Murray cod, digestibility and amino acid availability, 195  
 mysid, alternatives for lowering culture costs, 719  
 Nile tilapia, sodium chloride, growth and thyroid hormones, 507  
 Pacific oyster, supplementary microalgal and dried feed, 671  
 Pacific white shrimp, live algae and artificial diets, 683  
 pearl oyster, algal ration, 621  
 practical, dietary manipulation in, 213  
 prawn larvae, microalgae concentrates, 661  
 protein see Protein  
 rainbow trout  
 absorption of minerals in animal by-products, 585  
 dietary manipulation in practical diets, 213  
 effect of lipid on sperm integrity, 297  
 scallop, algal, for broodstock, 627  
 shortfin eel, digestibility and amino acid availability, 195  
 sodium chloride supplement  
 Arctic charr, 737  
 Nile tilapia, 507  
 vitamin C and E, and milkfish reproduction, 557  
 vitamin E, hyperoxia and redox status of Atlantic salmon, 401  
 Digestibility of protein  
 for Chinese hairy crab, 757  
*in vitro*, for fish larvae, 475  
 in protein-rich diets, 195  
 Dressing traits, triploid hybrids, rainbow trout x charr.
- Economics  
 lowering mysid culture costs, 719  
 technical efficiency of carp production, 937  
 Ecuador, cuticular epithelium necrosis in shrimp, 519  
*Edwardsiella tarda*, in integrated fish farming, 481  
 Eel, shortfin, digestibility and amino acid availability of diets, 195  
 Electromyogram telemetry, rainbow trout activity and energetics, 495  
 Electron microscopy (EM), gastrula-stage zebrafish embryos, 325  
 Embryos  
 conjoined twins in tilapia, 421  
 zebrafish, and cryopreservation, 325  
*Epinephelus coctoides* (Hamilton) see Grouper, orange-spotted  
*Eriocheir sinensis* H. Milne-Edwards see Crab, Chinese hairy  
*Esox lucius* see Pike, Northern
- Farfantepenaeus californiensis* (Holmes) see Shrimp
- Feeding  
 frequency, growth of flounder, 917  
 system (AquaSmart™), and salmon lice, 843  
 Feed intake, assessment of microparticulate diets, 691  
 Fertilization frequency, in fish culture ponds, 409  
 Fillet yield, African catfish hybrid, 553  
 Flounder  
 feeding frequency and dietary energy levels, 917  
 winter, larval first feeding, 377  
 yellowtail, growth and survival, 547  
 Fractional factorial design, 273
- GABA, in enhanced production of rotifer, 713  
 Genetic factors  
 characterization of wild Dutch common carp, 779  
 farming triploid hybrids, rainbow trout x charr, 349  
 improvement in aquaculture species, 1, 145  
 Australian abalone, 51  
 cold-water fish, 25  
 gene markers for breeding, 3  
 growth rate in redclaw crayfish, 61  
 implications of translocation and stocking, 83  
 marine fish, choice of approach, 11  
 marron and yabbies, 69  
 Pacific oyster, 35  
 Sydney rock oyster, 45  
 inheritance of genetic markers in tilapia, 435  
 population structure, penaeid prawns, 95  
 translocation  
 of barramundi, 121  
 implications of, 83  
 management of, 133, 151  
 Grouper, orange-spotted, loading rates, growth and survival, 603  
 Growth  
 Atlantic halibut, temperature and photoperiod, 219  
 blue mussel, environmental factors and, 893  
 Califia mother-of-pearl oyster, culture methods, 901

- catfish and fish/chicken viscera diet, 767  
 crossbred African catfish, 565  
 effect of oxygen and temperature, *F. californiensis*, 167  
 flounder, feeding frequency and dietary energy level, 917  
 genetic improvement of redclaw crayfish, 61  
*H. akashiro*, effects of light and temperature, 427  
 juvenile crayfish, 173  
 Murray cod, protein requirements, 181  
 Nile tilapia, effects of sodium chloride, 507  
 orange-spotted grouper, and loading rates, 603  
 Pacific oyster, supplementary feeding of juveniles, 671  
 Pacific white shrimp, artificial diets and live algae, 683  
 pearl oyster, algal ration and larval density, 621  
 protein requirements of Murray cod, 181  
 redclaw crayfish, genetic improvement of rate, 61  
 spotted babylon, hatchery-reared, 415  
 triploid hybrids, rainbow trout x charr, 349  
 yellowtail flounder, under different photoperiods, 547
- Halibut, Atlantic, temperature, photoperiod and growth, 219  
 Heat shock, conjoined twins in tilapia, 421  
*Heterobranchus longifilis* Valenciennes see Catfish, African  
*Heterosigma akashiwo*, growth and toxicity, 427  
*Hippoglossus hippoglossus* L. see Halibut, Atlantic  
 Hydrogen peroxide, resistance of salmon lice, 855  
 Hypo-osmoregulation, by Arctic charr, 737
- Ictalurus punctatus* Rafinesque see Catfish, channel  
 Immune response, in Atlantic salmon, 923  
 India, technical efficiency of carp production, 937  
 Induced spawning  
     anostomid fish *L. elongatus*, 189  
     carp pituitary and Kobarelin, 457  
 Invertebrate aquatic species  
     cryopreservation of semen, 259  
     see also specific species  
 Ireland, sensitivity of salmon lice to dichlorvos, 849  
 Ivermectin, treatment of salmon lice infestations, 869
- Kobarelin, in artificial spawning of carp, 457
- Larvae  
     density, growth and survival of pearl oyster, 621  
     first feeding in winter flounder, 377  
     in vitro digestibility of protein, 475  
*Lates calcarifer* (Bloch) see Barramundi  
*Lepeophtheirus salmonis* (Krøyer) see Salmon lice  
*Leporinus elongatus* Val. see Anostomid fish  
 Light intensity  
     effect on seed production by Nile tilapia, 609  
     effects on *H. akashiwo*, 427  
     see also Photoperiod  
 Lipids  
     dietary, and rainbow trout sperm integrity, 297  
     palm oil in catfish diets, 337  
*Litopenaeus vannamei* (Boone) see Shrimp, Pacific white  
 Loading rates, growth and survival of orange-spotted grouper, 603
- Maccullochella peelii* (Mitchell) see Cod, Murray  
 Mariculture  
     copepods in, 703  
     cryopreservation of sperm, 231  
     genetic approaches in, 11  
     high rate algal ponds and marine effluent, 729  
 Marron, genetic improvement, 69
- Metabolism, Japanese clam, under aerial exposure, 157  
*Metapenaeus* spp., population genetic structure, 95  
 Microalgae see Algae  
 Microsatellite PCR typing of salmon lice, 815  
 Milkfish  
     dietary vitamin C and E, and reproduction, 557  
     survival, in handling and transport, 575  
*Mimachlamys asperrima* (Lamarck) see Scallop, doughboy  
 Minerals, absorption by rainbow trout, 585  
 Molluscs  
     bivalve, microalgae concentrate diets, 637  
     see also specific molluscs  
 Mussel, blue, environmental factors and growth, 893  
 Mysid, lowering culture costs with alternative diets, 719  
*Mystus nemurus* (Cuvier & Valenciennes) see Catfish, tropical bagrid  
*Mytilus edulis* L. see Mussel, blue
- Necrosis, cuticular epithelium, in shrimp, 519  
 Netherlands, genetic characterization of wild common carp, 779  
 Nitrogen budgets in shrimp ponds, 387  
 Nutrition  
     assessment of microparticulate diets, 691  
     channel catfish, effect of protein source, 885
- Oncorhynchus mykiss* (Walbaum) see Trout, rainbow  
*Oncorhynchus tshawytscha* (Walbaum) see Salmon, chinook  
*Oreochromis aureus* (Steindachner) see Tilapia, blue  
*Oreochromis mossambicus* (Peters) see Tilapia  
*Oreochromis niloticus* (L.) see Tilapia, Nile  
 Oxidation, cholesterol in fish meals, 785  
 Oxygen concentration  
     growth and survival of *F. californiensis* juveniles, 167  
     vitamin E, hyperoxia and redox status in Atlantic salmon, 401
- Oyster  
     Califia mother-of-pearl, culture methods, 901  
     New Zealand dredge, use of premature larvae for spat production, 529  
     Pacific  
         genetic improvement of, 35  
         supplementary feeding of juveniles, 671  
     pearl  
         growth and survival, 621  
         transfer of spat from hatchery, 773  
         Sydney rock, breeding programme, 45
- Palm oil, in catfish diets, 337  
*Paralichthys olivaceus* (Temminck & Schlegel) see Flounder  
 PCR typing, microsatellite, and salmon lice, 815  
*Pecten maximus* (L.) see Scallop  
 Penaeid shrimp  
     growth and survival of *F. californiensis* juveniles, 167  
     population genetic structure, 95  
 Phosphorus, release rates from freshwater sediments, 447  
 Photoperiod  
     effect on growth of Atlantic halibut, 219  
     effect on seed production by Nile tilapia, 609  
     effects on growth and survival of yellowtail flounder, 547
- Pike, Northern, cryopreservation of semen, 245  
*Pinctada margaritifera* (L.) see Oyster, pearl  
*Pinctada mazatlanica* (Hanley 1856) see Oyster, Califia mother-of-pearl  
 Pituitary extract, carp, in artificial spawning, 457  
*Pleuronectes ferrugineus* (Storer) see Flounder, yellowtail  
 Pond systems

- high rate algal (HRAP), and marine effluent, 729  
 Indian major carp, and fertilization frequency, 409  
 nutrient budget in shrimp-mangrove farms, 387
- Population structure**  
 barramundi, 121  
 interpreting, 83, 133  
 penaeid prawns, 95  
 translocation and, 83, 121, 133, 151
- Prawns**  
 algal concentrates as diets for larvae, 661  
 penaeid, population genetic structure, 95  
 Predation, catfish larvae by tadpoles, 931
- Procambarus (Austrocambarus) llamasii* (Villalobos 1955) *see* Crayfish
- Protein**  
 content of African catfish hybrids, 553  
 dietary requirements of Murray cod, 181  
 digestibility and amino acid availability in diets, 195  
 digestibility and sources for Chinese hairy crab, 757  
 fish meal in practical diets for rainbow trout, 213  
*In vitro* digestibility for fish larvae, 475  
 nutritional effects of source on catfish, 885  
 soy and rapeseed, in gilthead seabream diets, 595
- Protozoan contamination, rotifer enzyme activity and**, 359
- Pseudopleuronectes americanus* (Walbaum) *see* Flounder, winter
- Rapeseed protein, in gilthead seabream diets, 595
- Reproductive performance**  
 anostomid fish *L. elongatus*, 189  
 crossbred African catfish, 565  
 juvenile crayfish, 173  
 milkfish, vitamin C and E and, 557  
 stress responsiveness in rainbow trout, 367
- Rotifer**  
 environmental stress and enzyme activity, 359  
 GABA in enhanced production, 713  
 in lowering mysid culture costs, 719
- Ruditapes philippinarum* (Adams & Reeve) *see* Clam, Japanese
- Saccostrea glomerata* (Gould 1850) *see* Oyster, Sydney rock
- Salmon**  
 Atlantic  
     rearing stress and antibody response, 923  
     salmon lice egg production, 805  
     salmon lice infestation, 795, 843, 855, 861, 869  
     starch utilization, 207  
     vitamin E, hyperoxia and redox status, 401  
 chinook, effects of anaesthesia on physiology, 537
- Salmonids**  
 cryopreservation of semen, 245  
 phosphorus release rates and, 447  
*see also* specific species
- Salmon lice**  
 Aquasmart™ feeding system and, 843  
 effects on rainbow trout, 823, 835  
 efficacy of teflubenzuron, 861  
 egg production, 805  
 infestation of Atlantic salmon, 795, 843, 855, 861, 869  
 microsatellite PCR typing, 815  
 resistance to hydrogen peroxide, 855  
 sensitivity to dichlorvos, 849  
 use of ivermectin and, 869
- Salmo salar* L. *see* Salmon, Atlantic
- Salvelinus alpinus* (L.) *see* Charr, Arctic
- Scallop**  
 doughboy, algal diets for broodstock, 627  
 righting and recessing ability, 473
- Screening studies, cryopreservation of fish sperm, 273  
 Seabream, gilthead, soy and rapeseed protein in diets, 595  
 Sea lice *see* Salmon lice
- Seasonal effects, overwintering performance of Nile tilapia, 485
- Shrimp**  
*F. californiensis*, growth and survival, 167  
 nutrient budgets in shrimp-mangrove farm ponds, 387
- Pacific white  
 artificial diets and live algae, 683  
 cuticular epithelium necrosis, 519
- Sodium chloride supplement**  
 Arctic charr and hypo-osmoregulation, 737  
 growth and thyroid hormones in Nile tilapia, 507
- Soy protein, in gilthead seabream diets**, 595
- Sparus aurata* L. *see* Seabream, gilthead
- Spawning** *see* Induced spawning
- Sperm, cryopreservation**, 229
- African catfish, 317  
 aquatic invertebrates, 259  
 Arctic charr, 307  
 design of screening experiments, 273  
 marine fish, 231  
 Northern pike, 245  
 rainbow trout, 289, 297  
 Salmonidae, 245  
 Siberian sturgeon, 283
- Stochastic production frontier analysis, 937
- Stocking**  
 density, rainbow trout activity and energetics, 495  
 genetic implications of, 83
- Stress**  
 cortisol response in rainbow trout, 835  
 environmental, and rotifer enzyme activity, 359  
 rearing, antibody response in Atlantic salmon, 923  
 responsiveness of rainbow trout, and reproduction, 367
- Sturgeon, Siberian**, flagella of frozen/thawed sperm, 283
- Survival**  
 blue mussel, environmental factors and, 893  
 California mother-of-pearl oyster, culture methods, 901  
 crossbred African catfish, 565  
*F. californiensis*, effect of oxygen and temperature, 167  
 milkfish, in handling and transport, 575  
 orange-spotted grouper, and loading rates, 603  
 Pacific white shrimp, artificial diets and live algae, 683  
 pearl oyster, algal ration and larval density, 621  
 triploid hybrids, rainbow trout x charr, 349  
 yellowtail flounder, effect of photoperiods, 547
- Tadpoles, predation of catfish larvae, 931
- Teflubenzuron, efficacy in salmon lice infestations, 861
- Telemetry**, rainbow trout activity and energetics, 495
- Temperature**  
 effect on growth of Atlantic halibut, 219  
 effects on *H. akashio*, 427  
 egg production by salmon lice, 805  
 growth and survival of *F. californiensis* juveniles, 167
- Thyroid hormones**, effects of sodium chloride on tilapia, 507
- Tilapia**  
 blue, conjoined twins in, 421  
 Nile  
     conjoined twins in, 421  
     light intensity, photoperiod and seed production, 609  
     overwintering performance, 485  
     sodium chloride, growth and thyroid hormones, 507  
*O. mossambicus*, inheritance of genetic markers, 435
- Tiostrea lutaria* Hutton *see* Oyster, New Zealand dredge

- Toad, predation capacity of tadpoles, 931  
Translocation *see* Genetic factors, translocation  
Transportation, effect on milkfish, 575  
Tricaine methanesulphonate (MS222), effects on chinook salmon, 537  
Trout  
  cryopreservation of semen, 245  
  rainbow  
    absorption of minerals in animal by-products, 585  
    activity and energetics, 495  
    characterization of milt, 289  
    cryopreservation of sperm, 245, 289, 297  
    dietary manipulation in practical diets, 213  
    effect of dietary lipid on sperm integrity, 297  
    effects of salmon lice, 823, 835  
    farming rainbow x charr triploid hybrids, 349  
    stress response in, 835  
    stress responsiveness and reproduction, 367
- Vietnam  
  nutrient budgets in shrimp ponds, 387  
  overwintering performance of Nile tilapia, 485  
Viral-like particles, cuticular epithelium necrosis in shrimp, 519  
Viscosity (seawater), and rotifer enzyme activity, 359  
Vitamin C, and milkfish reproduction, 557  
Vitamin E  
  hyperoxia and redox status in Atlantic salmon, 401  
  milkfish reproduction and, 557
- Waste, aquaculture, fate of, 745
- Yabbies, genetic improvement, 69
- Zebrafish, EM studies of cryopreserved embryos, 325



